

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

GILES S. PORTER, M.D., Director

Weekly Bulletin



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EDITOR

The Role of Ticks in Disease Transmission

Several species of ticks in California have been recognized as carriers of certain serious and often fatal communicable diseases. Chief of these are Rocky Mountain spotted fever and relapsing fever. The species involved in the transmission of these two diseases are quite different. It is an established fact, however, that individuals who may be devoted to outdoor life should take special precautions against invasions by all types of such insects.

In western states the insect which is responsible for the transmission of Rocky Mountain spotted fever to human beings is the common wood tick, known as the *dermacentor andersoni*. At the present time, if not earlier in the season, these ticks are most numerous. They are generally found on long grass and on the leaves of brush where they may easily become attached to passing animals and human beings.

The United States Public Health Service advocates three measures which may be used to prevent Rocky Mountain spotted fever. The first is to avoid ticks, the second is to remove ticks from the person as early as possible and the third is to be vaccinated against the disease. The Service states that on camping trips, if it is necessary to sleep in the open, care should be used in selecting a site for placing the bed as ticks will crawl into a bed laid on the ground. Because of the fact that ticks are generally more numerous where rodents are more abundant, areas that are well populated with rodents should be avoided in selecting a

camp ground. The safest camping site for absence of ticks is unquestionably in standing timber where low vegetation is sparse. Proximity to trails and old roads should be avoided. In sections where sagebrush grows this growth should be avoided always. Brushy areas along streams are also unsuitable as camping grounds in so far as the presence of ticks is concerned. Ticks tend to concentrate on vegetation along the sides of trails and in brush growing along the edge of wooded areas. Grassy strips in the middle of little used roads are often dangerous and all vegetation along roadsides should be avoided.

Suitable clothing, worn so as to prevent ticks from getting underneath, is of vast importance in the prevention of tick bites. High boots, leggings, puttees or socks that are worn outside the trouser leg are effective, but in spite of their use ticks will climb up the outside of the clothing. When they appear upon the neck they can generally be removed before biting. The United States Public Health Service states that passing the hand over the neck occasionally to feel for ticks is a good habit to acquire. The insects are more likely to secure a hold on rough clothing than on smooth clothing. They are able to travel much faster, however, on smooth material than upon rough material. In spite of all precautions a certain number of ticks will reach the body through the various openings in the clothing. It is important, therefore, that the inside of the clothing, as well as the body,

be examined frequently. Since ticks seldom attach immediately (unless late in the season) and are seldom infectious until after having been attached for a few hours, examinations of clothing and body made twice each day, early in the afternoon and upon retiring, ordinarily should be sufficient. In heavily infested tick areas or in sections known to be particularly dangerous more frequent examinations should be made.

The insects may be removed with the fingers, but a small pair of forceps or tweezers is better. With these instruments the tick may be seized by the head, close to the skin, and removed without danger of leaving the head embedded in the skin. Care should be exercised against crushing the tick as the contents of infected ticks are dangerous. After removing or handling the insects the hands should be washed thoroughly with soap and water.

Individuals whose occupation may take them into the wilds during the spring and early summer should be vaccinated against Rocky Mountain spotted fever. This vaccine has been developed by the United States Public Health Service in its Rocky Mountain Spotted Fever Laboratory at Hamilton, Montana. Physicians may secure vaccine from the laboratory for the protection of their patients. For its full protective value the vaccine should be administered at least ten days before exposure to tick bites. The vaccine is of no value in the treatment of the disease.

Less is known about the tick, in California, that may be involved in the transmission of relapsing fever. It would appear, however, that in certain sections of the high mountains there is a small brown tick that may be responsible for the transmission of the disease. This tick is found upon rodents, including the chipmunk, and it is found in the burrows of ground rodents upon which it feeds. Unlike the common wood tick this insect generally drops off the body immediately following its bite. It is known that this species of tick bites man and animals, particularly during the night hours. It is sometimes found in cabins and old buildings in the mountainous districts. Individuals who plan vacations in areas of the State where ticks abound should take ordinary and reasonable precautions against bites of these insects.

While cases of Rocky Mountain spotted fever and relapsing fever are not found in great numbers in California they occur each year, causing great discomfort and often resulting fatally. Ticks of all sorts should be avoided scrupulously in order to prevent the development of these diseases.

Another disease in which ticks are involved is tularemia. To be sure, the possibilities for direct

infection by contact with infected rabbits are of first importance. Nevertheless, the spread of the disease among animals is largely through insect vectors, among which ticks are important. Some cases of tularemia have been contracted through the crushing and handling of infected ticks. Most cases of the disease among human beings, however, are due to handling sick rabbits and particularly to infection contracted while skinning such rabbits.

INFECTED RODENTS CARRY PLAGUE

No human cases of plague have occurred in California since 1929, but a considerable number of infected rodents have been discovered during the past two years. The State Department of Public Health has worked continuously during the past biennial period in its efforts to control the disease among rodents, both rats and ground squirrels, in order that the State may be protected adequately against a recurrence of this highly fatal disease. The department has maintained a crew of men in the rural districts, whose duty it is and has been to gather and examine ground squirrels for the presence of plague. Whenever infected rodents have been discovered a campaign of destruction of all rodents within a large area surrounding the point of discovery of the infected rodent has been carried on. The various counties have cooperated with the State Department of Public Health in the destruction of ground squirrels and many of the municipalities of the State where activities in the control of the rat population are carried on have contributed valuable assistance. The large amount of work that has been carried on along these lines is indicated in the biennial report of the Bureau of Sanitary Inspections.

This disease has been sleeping and waking in California for more than thirty years and it is only through exerting continuous efforts against infected rodents that California is protected against this much to be feared disease. Plague will continue to be a menace to the health of Californians until such time as all possibility of rodent infection is removed.

The body must needs be vigorous in order to obey the soul; a good servant ought to be robust. * * * The weaker the body the more it commands; the stronger it is the better it obeys.—J. J. Rousseau (1750).

A sound mind in a sound body is a short but full description of a happy state in this world; he that has these two has little more to wish for; and he that wants either of them, will be but little the better for anything else.—John Locke (1690).

SEASON FOR MUSSEL POISONING APPROACHES

With the approach of the season when mussel poisonings occur, attention is called again to the simple method by which mussels may be made safer to eat. It has been determined that the addition of one-fourth ounce (one tablespoon) of bicarbonate of soda (common baking soda) to each quart of water in which the shellfish are cooked destroys 85 per cent of the poison, provided that the cooking process is continued for twenty to thirty minutes. If everyone who gathers and eats mussels were to follow this procedure it is probable that cases of mussel poisoning would be reduced to the vanishing point. To be sure, cooking shellfish with bicarbonate of soda does not grant complete protection, but it is believed that the partial protection afforded is sufficient to prevent severe cases of illness.

The ordinary methods of preparing mussels, by steaming and baking, do not lessen the danger of poisoning. In fact, the water in which these shellfish may be cooked takes up most of the poison and if the broth is not discarded the danger of poisoning is increased greatly. Cooking does not lessen the danger of poisoning. Furthermore, the belief that the blackening of a silver coin can be used as an indicator for the presence of the poison is a mistaken belief. Individuals who may suffer from mussel poisoning should never be treated with alcohol for the reason that the poison is most readily soluble in that product.

There were forty-two cases of mussel poisoning in California last year and it is probable that a seasonal quarantine on these shellfish will be established again this year. The period to be covered by such quarantine would depend entirely upon the laboratory tests for toxicity.

WEEKLY BULLETIN INDEX AVAILABLE

A mimeographed index of Volume XI of the Weekly Bulletin of the California State Department of Public Health is available to individuals who may request it. This is a topical index which covers issues of the Weekly Bulletin during the calendar year 1932.

No marked economy in school work or increase in the efficiency of instruction is possible if we are to continue to work with poor tools or poor materials. A teacher lacking in health and physical vigor is not likely to prove high in teaching efficiency, and pupils who are suffering from * * * lack of proper care are in no condition to take any large advantage of the instruction which is provided.—Ellwood P. Cubberley (1930).

INSTITUTES ON TUBERCULOSIS NURSING

There have been slight changes in the dates for the institutes on tuberculosis nursing to be held in San Francisco and Los Angeles. These institutes, which were announced in a recent issue of the Weekly Bulletin, will be given by Miss Violet Hodgson of the National Organization for Public Health Nursing.

In San Francisco the institute will be held in the auditorium of the San Francisco Department of Public Health at Polk and Grove streets. Sessions will be held from 4 p.m. to 6 p.m., June 5th and 6th, and one evening session will be held June 5th from 8 p.m. to 10 p.m.

In Los Angeles the institute will be held at the Nurses' Club, 245 S. Lucas Street. Sessions will be held from 4 p.m. to 6 p.m. upon the 8th and 9th, and one evening session will be held from 8 p.m. to 10 p.m. on June 9th.

HEALTH OFFICERS NEWLY APPOINTED

Dr. F. B. Galbraith has been appointed City Health Officer of Alameda to succeed Dr. R. W. Sanders.

Dr. Lloyd G. Tyler of San Rafael has been appointed City Health Officer of San Anselmo to succeed Dr. M. S. Edgar.

No one can estimate the ultimate effects of the depression, especially upon a disease like tuberculosis. No one can say what may be the harvest in this disease following the underfeeding and malnutrition that accompany such a period of stress. No one can forecast the serious results that might follow these conditions if people are unaware of the hazards and if appropriations and contributions for work by health departments and tuberculosis associations are not maintained on a level adequate to continue educational programs, to protect milk and food supplies, to maintain clinics, to find active cases, to give them adequate treatment in sanatoria and hospitals and, in particular, to protect infants and children from possible infection with this disease. This is indeed a serious obligation upon health authorities and one that they can meet only with intelligent public support.—Dr. Donald B. Armstrong.

How necessary health is to our business and happiness, and how requisite a strong constitution, able to endure hardship and fatigue, is, to one that will make any figure in the world; is too obvious to need any proof.—John Locke (1690).

MORBIDITY***Diphtheria**

37 cases of diphtheria have been reported, as follows: Los Angeles County 3, Los Angeles 24, Pasadena 1, Santa Monica 1, Bell 1, Riverside County 1, Riverside 1, San Francisco 1, Santa Clara County 2, Yolo County 2.

Chickenpox

504 cases of chickenpox have been reported. Those communities reporting 10 or more cases are as follows: Berkeley 17, Oakland 51, Fresno County 17, Fresno 10, Kern County 19, Los Angeles County 18, Los Angeles 62, Laguna Beach 10, Riverside 18, San Diego 37, San Francisco 83, Ventura County 14, Santa Paula 11.

Measles

1221 cases of measles have been reported. Those communities reporting 10 or more cases are as follows: Oakland 28, Los Angeles County 190, Alhambra 15, Compton 12, Culver City 18, Glendale 20, Huntington Park 14, Long Beach 27, Los Angeles 519, Pasadena 54, Santa Monica 65, South Gate 14, Mendocino County 10, Santa Ana 15, Riverside County 19, Riverside 13, San Bernardino County 12, San Diego 11, Ventura County 27.

Scarlet Fever

146 cases of scarlet fever have been reported. Those communities reporting 10 or more cases are as follows: Los Angeles County 11, Los Angeles 52.

Whooping Cough

527 cases of whooping cough have been reported. Those communities reporting 10 or more cases are as follows: Alameda 30, Berkeley 28, Oakland 28, Fresno County 24, Fresno 10, Los Angeles County 18, Los Angeles 80, Pasadena 17, Riverside 10, Sacramento 55, San Diego 16, San Francisco 94, San Joaquin County 12, Lodi 10.

Smallpox

25 cases of smallpox have been reported, as follows: Los Angeles County 6, Alhambra 1, Long Beach 1, Los Angeles 14, Mountain View 2, Santa Clara 1.

Typhoid Fever

8 cases of typhoid fever have been reported, as follows: Contra Costa County 1, Long Beach 1, Pasadena 1, Fullerton 1, Sacramento County 1, San Diego 1, San Francisco 1, Tehama County 1.

* From reports received on May 22d and 23d for week ending May 20th.

Meningitis (Epidemic)

2 cases of epidemic meningitis have been reported, as follows: Los Angeles 1, San Francisco 1.

Poliomyelitis

4 cases of poliomyelitis have been reported, as follows: Los Angeles 3, Coronado 1.

Rocky Mountain Spotted Fever

One case of Rocky Mountain spotted fever from Lassen County has been reported.

Trichinosis

One case of trichinosis from Alameda has been reported.

Undulant Fever

2 cases of undulant fever have been reported, as follows: Glendale 1, Long Beach 1.

Coccidioidal Granuloma

3 cases of coccidioidal granuloma have been reported, as follows: Kern County 2, Bakersfield 1.

"The family physician must educate his patients and community in preventive medicine and be to some extent a health administrator. His chief role and his chief service will be to keep his patients well. Evidently, such service can be made possible only by maintaining intimate clinical information, well recorded, regarding every man, woman and child who seeks his service. And every man, woman and child in every community should have his health recorded in the files of his family physician. Too many of our inhabitants worry through life with only fairly good health, and while they accomplish their daily duties, these fairly well persons may never know the exuberance and happiness of perfect health. Hence, one goal of the future practitioner of medicine will be the attainment and maintenance of exuberant health, which is the inherent right of every person. A higher average of overflowing good health means a higher average of happiness, comfort, usefulness and economic value of the individual. The superman will never materialize without superhealth.

"The new era in medicine which physicians of the future must be prepared to enter must also rest on the foundation of a wide and comprehensive plan of personal and public health education."—Wendell C. Phillips, M.D., President, American Medical Association (1926-27).

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